

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-13 (Previously canceled)

14. (Currently amended) A process for the valorisation of metal values in a Zn-, Fe- and Pb-bearing residue, comprising the steps of: subjecting the residue to a direct reduction step in a first reactor, thereby producing a metallic Fe-bearing phase and Zn- and Pb-bearing first fumes; extracting the Zn- and Pb-bearing first fumes and valorising Zn and Pb; subjecting the metallic Fe-bearing phase to an oxidising smelting step in a second reactor, thereby producing an Fe-bearing slag and second metals-bearing fumes; extracting the second metals-bearing fumes.

15. (Previously presented) The process according to claim 14, wherein the direct reduction step of the Zn-, Fe- and Pb-bearing residue provides a metallic Fe-bearing phase comprising at least 50% of the Fe contained in the Zn-, Fe- and Pb-bearing residue.

16. (Previously presented) The process according to claim 14, wherein the direct reduction step of the Zn-, Fe- and Pb-bearing residue provides a metallic Fe-bearing phase comprising at least 90% of the Fe contained in the Zn-, Fe- and Pb-bearing residue.

17. (Previously presented) The process according to claim 14, wherein during the oxidising smelting step, Fe in the metallic Fe-bearing phase is oxidised to mainly FeO in the slag.

18. (Previously presented) The process according to claim 17, wherein in the oxidising smelting step at least 50% of the Fe in the metallic Fe-bearing phase is oxidised to FeO.

19. (Previously presented) The process according to claim 17, wherein in the oxidising smelting step at least 90% of the Fe in the metallic Fe-bearing phase is oxidised to FeO.

20. (Previously presented) The process according to claim 14, wherein the Zn-, Fe- and Pb-bearing residue is a neutral leach residue or is a weak acid leach residue.
21. (Previously presented) The process according to claim 17, wherein an acidic flux is present in the oxidising smelting step.
22. (Previously presented) The process according to claim 17, wherein a mixture of an acidic and a basic flux are present in the oxidising smelting step.
23. (Previously presented) The process according to claim 14, wherein the Zn-, Fe- and Pb-bearing residue contains Cu and Ag, and, during the oxidising smelting step, a separate Cu-alloy phase is produced containing a major part of the Cu and Ag.
24. (Currently amended) The process according to claim 14, wherein the Zn-, Fe- and Pb-bearing residue contains a Ge fraction, further comprising, after the direct reduction step, separating and forwarding ~~the~~a Ge fraction in the first fumes to the oxidising smelting step.
25. (Previously presented) The process according to claim 24, wherein the separation of Ge is performed by co-precipitation with Fe hydroxide or by addition of tannic acid.
26. (Previously presented) The process according to claim 14, wherein the Zn-, Fe- and Pb-bearing residue contains Ge, and, after extracting the second metals-bearing fumes, at least part of the second metals-bearing fumes metallic content is valorised.
27. (Currently amended) The process according to claim 14, wherein the first fumes are oxidised in the first reactor, which is used for the direct reduction step.
28. (Currently amended) The process according to claim 14, wherein the first reactor, which is used for the direct reduction step, is a multiple hearth furnace.

29. (Currently amended) The process according to claim 14, wherein the second reactor, which is used for the oxidising smelting step, is a submerged lance furnace.